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5 The compounds 6,6-pentamethylenefulvene,  $C_5H_5CH_2Ph$ ,  
( $C_5H_4C(=CH_2)Ph$ )Li, ( $C_5H_4CMe_2Ph$ )TiCl<sub>3</sub> (the catalyst used in  
Example 1), ( $C_5H_4SiMe_2Ph$ )TiCl<sub>3</sub> (the catalyst used in Example 3),  
10 ( $C_5H_4CMe_2-3,5-Me_2C_6H_3$ )TiCl<sub>3</sub> (the catalyst used in Example 2) and  
B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub> were prepared according to procedures known as such. 6,6-  
Diethylfulvene was prepared analogously to 6,6-pentamethylenefulvene  
from cyclopentadiene and 3-pentanone. ( $C_5H_4CMe_2Ph$ )TiMe<sub>3</sub> (used in  
Examples 10 and 11) was prepared through modification of a known  
10 procedure by reaction of ( $C_5H_4CMe_2Ph$ )TiCl<sub>3</sub> with either Me<sub>2</sub>Mg or  
MeMgI. The preparations of other titanium complexes are disclosed  
hereafter in the Preparation Examples A to F.

15 A toluene solution of MAO (26 wt%, Akzo Nobel Chemicals), MAO  
supported on silica (5 wt%, Witco) and [PhNMe<sub>2</sub>H][B(C<sub>6</sub>F<sub>5</sub>)<sub>4</sub>] (Akzo  
Nobel Chemicals) were used as such.

20 NMR spectra were recorded on Varian Gemini 200/300 and Unity  
500 spectrometers.

The <sup>1</sup>H NMR spectra were referenced to resonances of residual  
protons in the deuterated solvents. Chemical shifts (δ) are given  
relative to tetramethylsilane (downfield shifts are positive). GC  
analyses were performed on a HP 6890 instrument equipped with a HP-1  
25 dimethylpolysiloxane column (19095 Z-123). GC-MS analyses were  
conducted using a HP 5973 mass-selective detector attached to a  
HP 6890 GC instrument. Elemental analyses are the average of a least  
two independent determinations.

30 **Preparation example A**

**Preparation of ( $C_5H_4CH_2Ph$ )TiCl<sub>3</sub>, to be used in Example 4.**

a) Preparation of ( $C_5H_4CH_2Ph$ )Li

35 To a solution of 11.3 mmol n-BuLi in 30 ml of diethyl  
ether/hexane at -40 °C, 1.87 g (12.0 mmol) of C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>Ph [2] was added  
dropwise. The reaction mixture was allowed to warm to room  
temperature and stirred overnight. The solvents were removed in  
vacuo. The white residue was stripped with pentane. After rinsing